

WHAT IS CLAIMED IS:

1. A device (1) for analyzing at least one analyte, comprising, firstly, a biochip (2) comprising a support (9), for example a polyhedral support, comprising an active face (3) comprising an active surface (31), onto which are distributed and attached a plurality of ligands (4) used for the analysis, at least one face (6) opposite the active face (3), and a transverse peripheral strip (7) connecting the active (3) and opposite (6) faces, comprising, for example, several sides (71, 74), and, secondly, a container (8), and also an attachment means (5) placed on both sides of the active face (3) of the biochip (2), and connecting, on one side, the transverse strip (7) of the biochip, virtually excluding any other part, face or surface of said biochip (2) and, on the other side, the container (8), virtually completely exposing the peripheral zone (32) of the active face (3) of the biochip (2), the container (8) and the biochip (2) delimiting a reaction compartment (10), characterized in that the biochip (2) is in contact with the container (8) only via the attachment means (5), placed between, on one side, the transverse strip (7) of the biochip and, on the other side, the container (8); cf, figure 2 for example.

2. A device (1) for analyzing at least one analyte, comprising, firstly, a biochip (2) comprising a support (9), for example a polyhedral support, comprising an active face (3) comprising an active surface (31), onto which are distributed and attached a plurality of ligands (4) used for the analysis, at least one face (6) opposite the active face (3), and a transverse peripheral strip (7) connecting the active (3) and opposite (6) faces, comprising, for example, several sides (71, 74), and, secondly, a container (8) which has a window (81), through which said biochip is attached via an attachment means (5) placed on both sides of the active face (3) of the biochip (2), the container (8) and the biochip (2) delimiting a reaction compartment (10), characterized in that the attachment means (5) of the biochip (2) connects, on one side, the transverse strip (7) of the biochip, virtually excluding any other part, including face or surface, of said biochip, virtually completely exposing the peripheral zone (32) of the active face (3) of said biochip and, on the other side, the frame of the window (81) of the container (8).

3. The device as claimed in claim 1, characterized in that the frame of the window (81) has an edge parallel to the transverse strip (7) of the biochip.

4. The analytical device as claimed in claim 1 or 2, characterized in that the attachment means completely exposes the active face (3).

5. The analytical device as claimed in claim 4, characterized in that the active surface (31) merges with the surface of the active face (3).

6. The analytical device as claimed in claim 1 or 2, characterized in that the attachment means (5) is an adhesive.

7. The analytical device as claimed in claim 2, characterized in that the container (8) has a window (81) with a transverse profile substantially identical to that of the support (9) of the biochip (2).

8. The analytical device as claimed in claim 2, characterized in that the window (81) of the container (8) is equipped with a means which allows a surplus of adhesive to be stored without it overflowing onto the peripheral zone (32) of the biochip (2).

9. The device as claimed in claim 8, characterized in that the means for storing a surplus of adhesive consists of a beveled shape (14) at the level of the window (81) of the container.

10. The analytical device as claimed in any one of claims 7 to 9, characterized in that the interstice between the border of the window (81) and the transverse strip (7) of the biochip is between 2 mm and 0.05 mm, advantageously between 0.5 mm and 0.05 mm, and preferentially between 0.2 mm and 0.1 mm.

11. The analytical device as claimed in any one of claims 1 to 10, characterized in that the attachment means extends along the entire transverse strip (7) of the biochip.

12. The analytical device as claimed in any one of claims 1 to 11, characterized in that the attachment means (5) connects two opposite zones of the transverse strip (7), to the container (8).

13. The analytical device as claimed in claim 6, characterized in that the adhesive comprises a component which can be cured by ultraviolet radiation.

14. The analytical device as claimed in any one of claims 1 to 13, characterized in that the support (9) of the biochip (2) is a parallelepiped, the active (3) and opposite (6) faces of which are each rectangular or square.

15. The analytical device as claimed in any one of claims 1 to 14, characterized in that the reaction compartment (10) is arranged so as to bring a liquid medium, subjected to the analysis, and the active surface (31) of the biochip into contact.

16. The analytical device as claimed in claim 15, characterized in that the attachment means (5) ensures that the reaction compartment (10) is leaktight with respect to the outside.

17. The analytical device as claimed in any one of claims 1 to 16, characterized in that the active surface (31) of the biochip has a surface area of less than 100 mm^2 , advantageously less than 65 mm^2 , and preferentially less than 30 mm^2 .

18. The analytical device as claimed in any one of claims 1 to 16, characterized in that the active surface (31) of the biochip represents at least 75% of the surface area of the active face (3).

19. The analytical device as claimed in any one of claims 1 to 18, characterized in that the ligands are nucleic acids.

20. The analytical device as claimed in claim 8, characterized in that the means for storing a surplus of adhesive consists of a concavity present on all or part of the surround of the window (81) of the container (8), such as a groove or a channel.

21. The analytical device as claimed in any one of claims 1 to 20, characterized in that the attachment means (5) comprises means which are flexible (12) at the level of the window (81) of the container (8), and exert a pressure on the transverse strip (7) of the biochip (2) so as to facilitate the positioning and/or the maintaining in position of said biochip.

22. The analytical device as claimed in claim 21, characterized in that the flexible means (12) consist of two interdependent components, namely an intermediate component inclined relative to the opposite face (6) of the biochip, and an end component substantially perpendicular to said opposite face, said end component exerting a pressure on the transverse strip (7) of the biochip.

23. The analytical device as claimed in claim 21, characterized in that the flexible means (12) comprise claws, the cross section of which is substantially triangular.

24. A process for attaching a biochip to a container, for producing an analytical device as claimed in any one of claims 1 to 23, characterized in that the biochip (2) is maintained opposite the container (8), in that a liquid adhesive seal is distributed between the transverse strip (7) of the biochip and the container (8), and in that the adhesive (5) is cured by ultraviolet radiation.

25. The attachment process as claimed in claim 24, characterized in that the biochip (2) is positioned relative to the container (8) so as to place the transverse strip (7) of the biochip opposite the frame of the window (81) of the container (8).

26. The attachment process as claimed in claim 25, characterized in that the biochip (2) and/or the container (8) is (are) maintained on the positioning means by applying a vacuum.

27. The attachment process as claimed in any one of claims 24 to 26, characterized in that ultraviolet radiation is applied to the adhesive seal on at least one of the faces of the analytical device.

28. The attachment process as claimed in any one of claims 24 to 27, characterized in that a mask is positioned between the biochip and the ultraviolet radiation in order to protect the ligands in the active surface (31).